

Determining Required Lens Adapter

To determine the proper Lens Adapter for the ID application, refer to Table 2, which lists the optimal working distances and Fields of View for each Lens Adapter. Figure 5 illustrates the working distances specified in Table 2.

The range variance is added to or subtracted from each of the listed optimal working distances to determine the working distance range.

Table 2: Working Distance and Field of View

IMAGE FORMATION SYSTEM KIT PART NUMBERS	FIELDS OF VIEW	WORKING DISTANCES (OPTIMAL)				RANGE VARIANCE
		D1	D2	D3	D4	
IFS-RRL050-0008	8mm(h) x 6mm(v)	126mm	91mm	60mm	55mm	-1mm to +2mm
IFS-RRL050-0012	11mm(h) x 8mm(v) to 12mm(h) x 9mm(v)	143mm	108mm	82mm	72mm	-2mm to +2mm
IFS-RRL050-0018	18mm(h) x 13mm(v) to 19mm(h) x 14mm(v)	176mm	141mm	118mm	105mm	-1mm to +2mm
IFS-RRL050-0027	27mm(h) x 21mm(v) to 30mm(h) x 22mm(v)	228mm	193mm	173mm	157mm	-2mm to +8mm
IFS-RRL050-0040	40mm(h) x 30mm(v) to 47mm(h) x 35mm(v)	308mm	273mm	254mm	237mm	-12mm to +26mm
IFS-RRL050-0060	60mm(h) x 46mm(v) to 79mm(h) x 59mm(v)	434mm	399mm	381mm	363mm	-29mm to +71mm
IFS-RRL050-0090	90mm(h) x 72mm(v) to 120mm(h) x 90mm(v)	714mm	679mm	662mm	643mm	-118mm to ∞

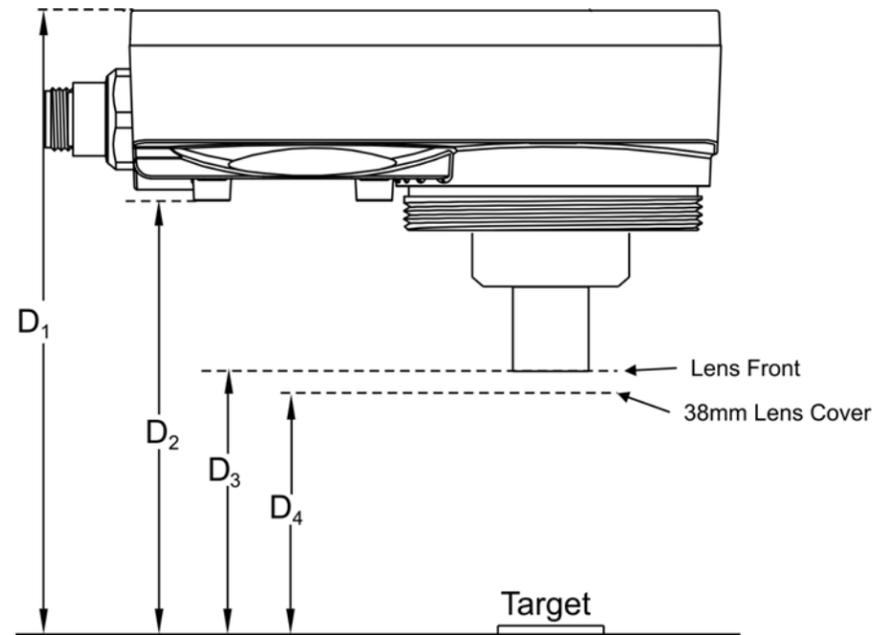


Figure 5: Working Distance Dimensions

Image Formation System Kit Contents

The Image Formation System Kit, P/N IFS-RRL050-xxxx (where xxxx refers to the Field of View, in millimeters) includes a fixed focus 25mm Lens, C-mount Lens Adapter, 38mm Lens Cover kit, 50mm diameter Ring Light and Ring Light installation screws. The Field of View is dependent on which C-mount Lens Adapter is attached to the Lens. Items 3 through 8 in Figure 1 illustrate the Image Formation System components. If any of the contents appear to be missing or damaged, immediately contact Cognex Product Services:

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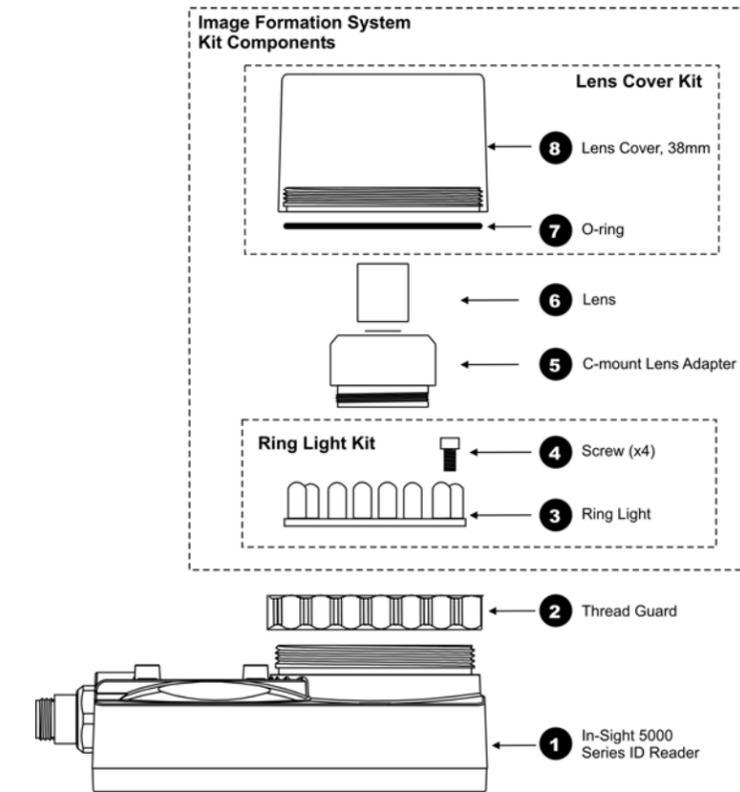


Figure 1: Image Formation System Components



Image Formation System Component Installation

The following are procedures for installing the components included in the Image Formation System Kit.

The 5000 Series ID Reader 50mm Ring Light

The 50mm Ring Light illuminates parts for inspection during image acquisition. As shown in Figure 2, the Ring Light assembly consists of two banks of LEDs that are individually controlled by software.

The horizontal bank consists of eight LEDs (four LEDs on the left and right sides of the Ring Light); the vertical bank consists of eight LEDs (four LEDs on top and bottom of the Ring Light). Each bank is controlled through the In-Sight® Explorer software (Refer to the *In-Sight Explorer Help* file - AcquireImage Function). Using the AcquireImage function's Light Power parameters, each bank can be turned on for the duration of the exposure.

A non-zero value (1-255) for the **Light Power 0** parameter turns on the horizontal bank; a non-zero value for the **Light Power 1** parameter turns on the vertical bank. If the value for a parameter is zero, the light bank will remain off during the exposure.

Installing the Ring Light

Refer to Figure 3 while performing the following steps:

NOTE If installed, remove the Lens Cover (Item 8, Figure 1).

1. Place the Ring Light (Item 3) onto the ID Reader.
2. Verify that the "TOP" label is oriented as shown on Item 3.
3. Secure the Ring Light to the ID Reader using the four retaining screws provided (Item 4).
4. Re-install the Lens and Lens Cover as required.

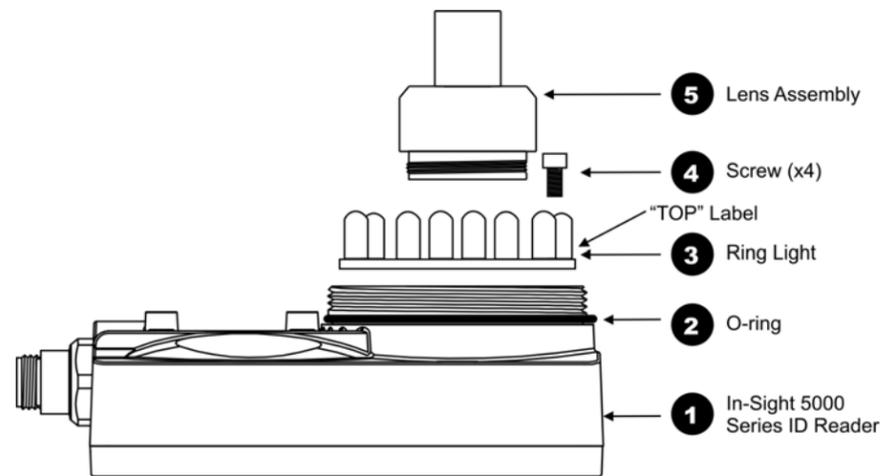


Figure 3: Ring Light Installation/Removal

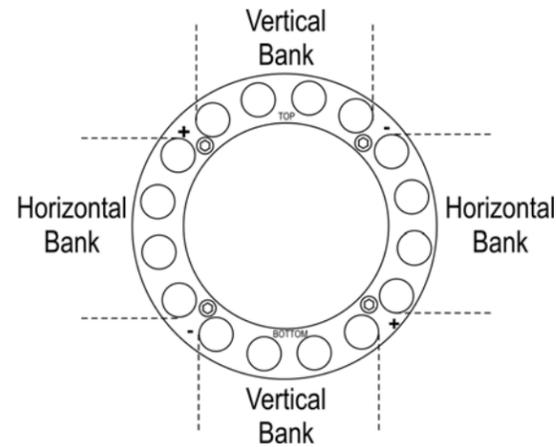


Figure 2: Ring Light LED Banks

Installing the Lens Assembly

The C-mount Lens Adapter (Item 5, Figure 1), when attached to the fixed focus Lens (Item 6, Figure 1), creates the Lens Assembly (Item 3, Figure 4).

Refer to Figure 4 to install the Lens Assembly:

NOTE If installed, remove the Lens Cover (Item 4).

1. Install the Lens Assembly into the ID Reader (Item 3).
2. Replace the Lens Cover as required.

Installing the Lens Cover

A 50mm Lens Cover and O-ring are provided with the 5000 Series ID Readers. When properly installed, the Lens Cover and O-ring provide environmental protection that meets the IP67 environmental protection standard. The 38mm Lens Cover and O-ring, supplied in the Image Formation Kit, also provide the IP67 environmental protection with a shorter profile.

If the 50mm Lens Cover is installed, it will have to be removed to install the 38mm Lens Cover, Lens or Ring Light contained in the Image Formation System Kit.

To remove the Lens Cover, simply unscrew it from the ID Reader. A 50mm O-ring (Item 2, Figure 5) should remain at the bottom of the ID Reader threads.

Refer to Figure 4 while performing the following steps:

NOTE If installed, remove and store the Thread Guard (Item 2, Figure 1).

1. Inspect the O-ring (Item 2) and install it to the base of the ID Reader Lens Cover threads.
2. Install the desired Lens Cover (Item 4) by screwing it onto the ID Reader Lens Cover threads.

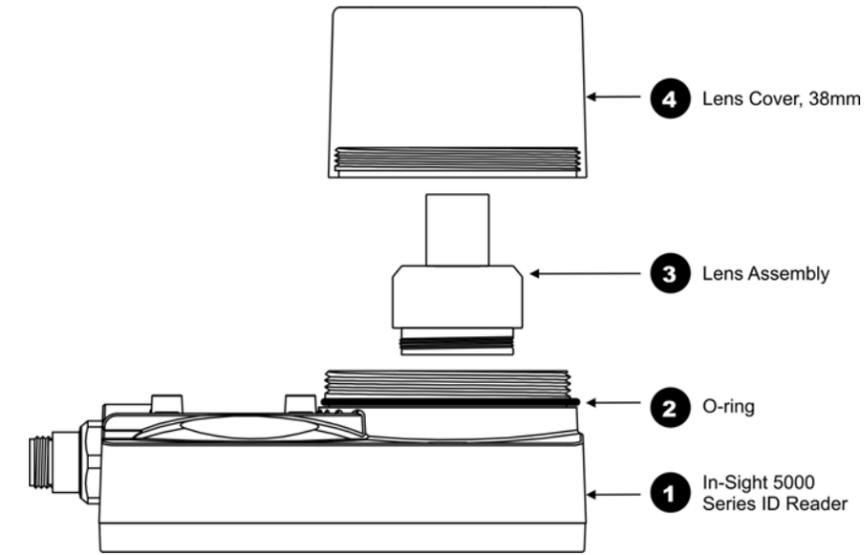


Figure 4: Lens Cover Installation/Removal